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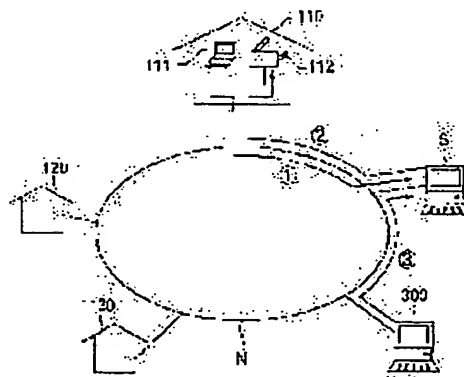
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(54) NETWORK PHOTO SERVICE PROVIDING METHOD, NETWORK PHOTO SERVICE DEVICE AND NETWORK PHOTO SERVICE PROGRAM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a network photo service providing method that allows a customer staying at home to obtain an image output with high image quality equivalent to that of a photo shop and to provide a network photo service device and a network photo service program.

SOLUTION: This invention provides a network photo service providing method that provides a photo service by using a computer system connected to a network, solicits a customer to transfer digital image data, applies image processing to the digital image data and transfers the digital image data subjected to the image processing to the customer for outputting the resulting data from an image output device of the customer.



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CLAIMS

[Claim(s)]

[Claim 1] The network photograph service provision approach characterized by to have the order reception step which urges to transmit digital image data to a customer in the network photograph service provision approach of offering photograph service according to the computer system linked to a network, the image-processing step which perform an image processing to said digital image data transmitted by said customer, and the transfer step which transmit it in order to make the digital image data which performed said image processing output from said customer's image output unit.

[Claim 2] The network photograph service provision approach according to claim 1 which urges said customer to input said customer's taste information as ordering information in said order reception step, and is characterized by said image processing being an image processing according to said taste information.

[Claim 3] The network photograph service provision approach according to claim 1 or 2 which acquires the model information on said image output unit, and is characterized by said image processing being an image processing according to said model information in said order reception step.

[Claim 4] It is the network photograph service provision approach given in any 1 term of claims 1-3 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and are characterized by said image processing being an image processing according to said additional information.

[Claim 5] The network photograph service provision approach given in any 1 term of claims 1-4 to which said image processing is characterized by being addition of advertising information.

[Claim 6] The network photograph service equipment characterized by to have the order reception means which urges to transmit digital image data to a customer in the network photograph service equipment which provides a customer with photograph service through a network, an image-processing means perform an image processing to said digital image data transmitted by said customer, and a transfer means transmit in order to make the digital image data which performed said image processing output from said customer's image output unit.

[Claim 7] Network photograph service equipment according to claim 6 with which he is urged for said order reception means to input said customer's taste information as ordering information to said customer, and said image-processing means is characterized by performing the image processing according to said taste information.

[Claim 8] Network photograph service equipment according to claim 6 or 7 with which said order reception means acquires the model information on said image output unit, and said image-processing means is characterized by performing the image processing according to said model information.

[Claim 9] It is network photograph service equipment given in any 1 term of claims 6-8 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and are characterized by said image processing being an image processing according to said additional

information.

[Claim 10] Network photograph service equipment given in any 1 term of claims 6-9 to which said image-processing means is characterized by adding advertising information.

[Claim 11] In the network photograph service program which offers photograph service through a network The order reception procedure urged to transmit digital image data to a customer, The image-processing procedure of performing an image processing to said digital image data transmitted by said customer, The network photograph service program which makes a computer perform the transfer procedure of transmitting it in order to make the digital image data which performed said image processing outputting from said customer's image output unit.

[Claim 12] The network photograph service program according to claim 11 with which said image processing is characterized by being color management processing.

[Claim 13] The network photograph service program according to claim 11 or 12 which urges said customer to input said customer's taste information as ordering information in said order reception procedure, and is characterized by said image processing being an image processing according to said taste information.

[Claim 14] A network photograph service program given in any 1 term of claims 11-13 which acquire the model information on said image output unit, and are characterized by said image processing being an image processing according to said model information in said order reception procedure.

[Claim 15] It is a network photograph service program given in any 1 term of claims 11-14 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and are characterized by said image processing being an image processing according to said additional information.

[Claim 16] A network photograph service program given in any 1 term of claims 11-15 to which said image processing is characterized by being addition of advertising information.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the network photograph service provision approach, the network photograph service equipment, and the network photograph service program which were made to carry out the direct output of the digital image data which offered image-processing service of the digital image data as photograph service, and performed said image processing as hard copy from image output units, such as a customer's facsimile, through networks, such as the Internet.

[0002]

[Description of the Prior Art] In recent years, devices treating digital data, such as a digital camera, a scanner, and a personal computer, have spread quickly as home use. Moreover, digital image output units, such as facsimile which outputs those digital data as hard copy, an ink jet printer, and a laser beam printer, have spread similarly, and have become the quality thing which also has image quality equivalent to photograph image quality.

[0003] In domestic, when a user is going to get digital image data from an independent printer as hard copy uniquely, various trouble occurs.

[0004] First, digital image data is read into a personal computer. A printer is connected to this personal computer and the printer driver for controlling this printer is installed in it as application software.

[0005] And about each read image data, color tone modification, brightness modification, trimming, etc. must be processed, number-of-sheets assignment must be carried out, and it must output (print-out). However, for a certain reason, in the usual printer drivers, such as color matching, amendment of gradation, noise rejection, etc. between the display screen of a personal computer, and the output of a printer, an impossible image processing is also less than the image quality of a photoprint which is received in a photograph store in many cases.

[0006] Moreover, even if there is application software in which such an image processing is possible, remarkable mastery is required in order to master it.

[0007] Moreover, considering an effort and time amount, in the case of the digital image data by which digital image data to output is the snapshot of a travel etc., and amounts to dozens of sheets photoed with the digital camera, it is very difficult [it] to acquire the image quality of a photoprint which is received in a photograph store about the all.

[0008] On the other hand, for the latest DPE (photograph store), an image is read in a conventional color film [finishing / development] with a scanner, after digitizing, it is made a print or service which carries out immediate printing from the digital image data memorized by the memory of a digital camera is offered. Although there are few problems about a guarantee of the above-mentioned image quality in the image-processing capacity of a photograph store, a customer has to go to DPE specially, and these photograph services must deposit digital image data, must go a print taking over after that, and lack convenience.

[0009]

[Problem(s) to be Solved by the Invention] By the way, as for said domestic digital instrument, the

environment in which the data exchange with the exterior is possible is ready through networks, such as the Internet, in recent years. Broadband-ization is going to the network using fiber-optic cables, such as FTTH, increasingly from the network using metallic cables, such as current ISDN, an IP connection, and ADSL, and even if it is mass digital image data, a communication link is becoming possible for a short time. Furthermore, wireless networks, such as health Internet service and IMT-2000 (third generation migration communication system by specification, such as W-CDMA), are also being improved, and the spread of mobile equipment is also prosperous.

[0010] Moreover, the technique which connects each domestic digital instruments by network in domestic by not only cables, such as Ethernet, IEEE1394, and USB, but the electric wave (PHS and Bluetooth) or light (infrared radiation, optical wireless, etc.) is also proposed (domestic [LAN]).

[0011] According to the "investigation report about the fusion of a domestic device which viewed the 21st century, and development promotion of a network technique" of the Japan Key Technology Center issue of issue, networks, such as the external WWW Internet, and domestic [LAN] will be linked in March, Heisei 12, and the system which can enjoy various services easily by domestic is proposed. An example of such a system is shown in drawing 5 .

[0012] Drawing 5 indicates signs that it has connected domestic [of each home / LAN] by the home server to be the network which consists of wire nets, such as satellite communication networks, such as BS and CS, CATV and ISDN, and FTTH, etc. The home server has the tuner as an interface with a network, a modem, a controller, etc. HDD as the storage section, DVD, etc. Domestic [LAN] has connected a personal computer (personal computer), a color printer, a telephone, FAX (facsimile), a refrigerator, an air-conditioner, lighting, etc. by specification, such as IEEE1394, and USB, Bluetooth. A cellular phone, PHS, etc. as migration means of communications join this a network or domestic [LAN].

[0013] The customer who owns such domestic [LAN], migration means of communications, etc. can receive various services now from a service provider through a network.

[0014] The purpose of this invention is for a customer to provide a house with the network photograph service provision approach, the network photograph service equipment, and the network photograph service program of a photograph store EQC which enabled it to obtain a high definition image output without moving from his seat in view of the above-mentioned technical problem and maintenance of a network environment.

[0015]

[Means for Solving the Problem] The above-mentioned purpose of this invention was attained by the following configurations.

[0016] 1. In the network photograph service provision approach of offering photograph service according to the computer system linked to a network The order reception step urged to transmit digital image data to a customer, The image-processing step which performs an image processing to said digital image data transmitted by said customer, The network photograph service provision approach characterized by having the transfer step which transmits it in order to make the digital image data which performed said image processing output from said customer's image output unit.

[0017] 2. Network photograph service provision approach given in the above 1 which urges said customer to input said customer's taste information as ordering information in said order reception step, and is characterized by said image processing being image processing according to said taste information.

[0018] 3. Network photograph service provision approach given in the above 1 or 2 which acquires model information on said image output unit, and is characterized by said image processing being image processing according to said model information in said order reception step.

[0019] 4. It is the network photograph service provision approach given in any 1 term of the above 1-3 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and is characterized by said image processing being an image processing according to said additional information.

[0020] 5. Network photograph service provision approach given in any 1 term of the above 1-4 to which said image processing is characterized by being addition of advertising information.

[0021] 6. The network photograph service equipment characterized by to have the order reception means which urges to transmit digital image data to a customer in the network photograph service equipment which provides a customer with photograph service through a network, an image-processing means perform an image processing to said digital image data transmitted by said customer, and a transfer means transmit in order to make the digital image data which performed said image processing output from said customer's image output unit.

[0022] 7. Network photograph service equipment given in the above 6 said whose image-processing means he is urged for said order reception means to input said customer's taste information as ordering information to said customer, and is characterized by performing image processing according to said taste information..

[0023] 8. Network photograph service equipment given in the above 6 or 7 said whose image-processing means said order reception means acquires model information on said image output unit, and are characterized by performing image processing according to said model information.

[0024] 9. It is network photograph service equipment given in any 1 term of the above 6-8 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and is characterized by said image processing being an image processing according to said additional information.

[0025] 10. Network photograph service equipment given in any 1 term of the above 6-9 to which said image-processing means is characterized by adding advertising information.

[0026] 11. In the network photograph service program which offers photograph service through a network The order reception procedure urged to transmit digital image data to a customer, The image-processing procedure of performing an image processing to said digital image data transmitted by said customer, The network photograph service program which makes a computer perform the transfer procedure of transmitting it in order to make the digital image data which performed said image processing outputting from said customer's image output unit.

[0027] 12. A network photograph service program given in the above 11 said whose image processing is characterized by being color management processing.

[0028] 13. A network photograph service program given in the above 11 or 12 which urges said customer to input said customer's taste information as ordering information in said order reception procedure, and is characterized by said image processing being an image processing according to said taste information.

[0029] 14. A network photograph service program given in any 1 term of the above 11-13 which acquires the model information on said image output unit, and is characterized by said image processing being an image processing according to said model information in said order reception procedure.

[0030] 15. It is a network photograph service program given in any 1 term of the above 11-14 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and is characterized by said image processing being an image processing according to said additional information.

[0031] 16. A network photograph service program given in any 1 term of the above 11-15 to which said image processing is characterized by being addition of advertising information.

[0032] Hereafter, this invention is explained to a detail. In this invention, a "network" is the communication network which can deliver and receive digital image data between the service providers which offer photograph service of an image processing with the customer who receives service. That is, the network concerned needs that the server by the side of that the digital image data based on digital camera photography etc. can be transmitted to the server by the side of a service provider (network photograph service equipment) from digital instruments, such as a customer's personal computer, and a service provider can perform an image processing to the digital image data which received from the

customer suitably, can transmit to image output units, such as a customer's facsimile, and can make it output from a customer side. It is a communication network centering on the WWW Internet, and is a dedicated line, a CATV network, a dialup connection network, a satellite communication network, etc., and, specifically, all the means of communications that have sufficient transmission speed to perform a transfer of the ordering information in this invention or digital image data are included.

[0033] this invention -- setting -- "a computer system" -- (1) -- transfer equipment for the customer connected to said network to transmit digital image data, and (2) -- the network photograph service equipment which receives said image data transmitted by said customer connected to said network, performs an image processing, and transmits to a customer's image output unit, and (3) -- a customer's image output unit connected to said network is included at least.

[0034] Specifically, client computers, such as a personal computer with which a customer uses the above (1), the server computer by which a service provider uses (2), and (3) are things, such as facsimile with a printer which a customer uses.

[0035] In this invention, the radical data which a customer transmits to a service provider at the time of order reception, and processed data after a service provider performs an image processing are included with "digital image data." As radical data, the photography image which the customer photoed with the digital camera, the image which the customer read and digitized with the scanner from the analog image, the digital image created on the personal computer, the images downloaded from the homepage currently exhibited on the Internet are all digital data, and can communicate through the above-mentioned network. It is specifically possible to use various data format, such as a bit map, and JPEG, GIF, HTML, and it is possible to acquire compatibility by using a converter in the case of data format which is different with the transfer equipment by the side of a customer, and the network photograph service equipment by the side of a service provider. Moreover, in order to gather transmission speed, a well-known data compression technique can also be used. Moreover, the digital image data of this invention includes not only the image data itself that constitutes an image but additional information, such as photography conditions at the time of photography by the digital camera (extracting shutter speed, a focus, various photography modes, etc.).

[0036] In this invention, the "image processing" as photograph service which a service provider offers is an image processing automatically performed based on the ordering information later mentioned to the digital image data (radical data) transmitted by the customer at the time of order reception, and is data-conversion processing for making hard copy output from a customer's image output unit.

[0037] The digital image data which carried out order reception is RGB data, and when an image output unit receives only YMCK data, based on a chromaticity translation table, it changes into YMCK data or, specifically, let processing as a printer driver which performs conversion about the size and the number of sheets of hard copy be the base.

[0038] Moreover, a customer can be provided with a high definition image like a photoprint received in a photograph store by including A-D as an image processing below in this invention.

A. It is an image processing for recognizing the total image transformation from the digital image data (radical data) transmitted by the image-processing customer according to the model information on a customer's image output unit to the digital image data for hard copy (processed data) outputted from a customer's image output unit, and guaranteeing the repeatability of a better image by engine-performance within the limits of the image output unit concerned. For example, when the chromaticity translation table of RGB->YMCK changes with models of image output unit about color reproduction or gradation, the chromaticity translation table applied to an image processing for every model is changed, and an image processing is performed so that it may become the optimal data for an output for a customer's image output unit. Moreover, when the resolution (dpi: pixel number) of an image output unit is inferior compared with the radical data transmitted by the customer, a data compression is performed according to the resolution of the image output unit concerned, and the processing which makes quick the transfer rate of the digital image data from network photograph service equipment to an image output unit is included in this image processing.

[0039] The production approach of LUT (chromaticity translation table) changed into YMCK data from

RGB data can use a well-known approach. For example, a color patch with each BGR value is produced, it outputs to an image output unit, and the chromaticity region of the obtained hard copy is measured using a colorimeter. The parameter of LUT is set up so that the color reproduction region of this RGB space and the color reproduction space produced using the acquired colorimeter chromaticity value may become the optimal relation (for example, gray balance, color reproduction of a pure color, maximization of a color reproduction region). The color reproduction region of hard copy has the large place which the difference of the coloring material by the classes of a customer's image output unit differing especially although it changes greatly with the medium kind outputted [paper] and light source kinds which observe hard copy the spectral extinction wave-like of coloring materials, such as ink of YMCK used for an image output unit or a pigment, and spectral extinction wave-like contributes. In this invention, it is one of the descriptions that the image of the optimal high quality can be obtained, without a customer being conscious of the output unit which a customer owns.

[0040] Furthermore, there is no YMCK at one sort of ink cartridges depending on an output model, respectively, for example, Y can produce LUT which one sort and M seasoned with contribution of all ink cartridges like the above also in this case although two sorts and C consist of two sorts and K may consist of ink cartridges of one sort of a total of six colors. Moreover, it is possible to distinguish the classes (a regular paper, coat paper, a photograph-like paper, OHP sheet, etc.) of output form with which output equipment is equipped, and to also produce the optimal LUT for the form.

[0041] In addition, a customer may input this model information on an order reception screen, and you may make it transmit the information on the domestic LAN environment to a server automatically.

B. It is the thing of the processing processing which the image-processing customer according to a customer's taste wants to perform to the digital image data (radical data) to transmit, for example, they are modification of contrast, modification of a color or gradation, enlarging or contracting of an image, trimming assignment, modification of the aspect ratio of an image, etc.

[0042] Furthermore, ***** of a customer's subjective image taste, high key, a low key, hard -- thin -- come -- soft - with contrast -- the software which is not -- It fades. hardness and a jump -- gradation processing -- going out -- Sharp and sharpness -- blurring and the cold dotage taste -- adjustment of the sharpness of an image, and a flicker -- oh, it can be and conspicuous noise processing, vividness which is beautiful and becomes muddy, gaiety, gloss, astringent taste, depth, abundance, and processing that changes color reproduction about it being dirty can be performed about being a rough deposit and it being dirty.

[0043] It parameterizes this customer's taste information, and is received as ordering information with the network photograph service equipment by the side of a service provider (server), for example, an image processing is performed by technique, such as FITS (Flexible Image Transport System) of LivePicture.

[0044] In addition, a customer sends a customer's taste information to a server as one item of ordering information at the time of order reception. Moreover, the gestalt which can be ordered while checking an image-processing result on a monitor also has a desirable customer.

C. Although the photography conditions at the time of photography by the image-processing digital camera based on additional information, such as photography information on a digital camera, (extracting shutter speed, a focus, various photography modes, etc.) etc. are included in digital image data as additional information, they are an image processing performed according to this additional information.

[0045] Speaking still more concretely, as additional information at the time of photography of a digital camera Auto photography mode, diaphragm priority photography mode, shutter speed priority photography mode, Automatic focus mode, manual focus mode, an exposure type of optical measurement (a full screen average) Mechanical zoom, such as point assignment and a screen separation average, and digital zoom use existence, Blurring prevention mode, bloodshot-eyes mitigation mode, stroboscope luminescence existence, scenery photography mode, Person photography mode, sport photography mode, night view photography mode, close-up photography mode, Monochrome line drawing photography mode, image-processing kinds (sepia processing, monochrome processing,

alphabetic character sharp-ized processing, profile emphasis processing, etc.), a photography person, photography time, the number of photography coma, a camera model name, image size, image resolution, the rate of picture compression, a graphics format kind, etc. are mentioned. Sharp-ized processing performs to extent which performs color change processing in_ which its attention was paid to the beige part to the image photoed in the person photography mode in_ which the image processing which emphasizes the saturation of the green of trees or a marine color to the image photoed for example, in scenery photography mode among these is performed, noise-rejection processing, etc. and to which shutter speed does not spoil a granular feeling to a late image, and it outputs to a customer image output unit. Such additional information may be used combining the image processing indicated to said A and B.

D. The service provider which performs the image-processing image processing which adds advertising information carries out in concert with an advertising provider, a customer receives photograph service, and it is an image processing for making the advertising information which adds to digital image data to output and said advertising provider offers output from a customer's image output unit. The business model which discounts the tariff of the image processing (photograph service) which a service provider collects from a customer, or carries out free provision of the supply articles used for a customer's image output unit, such as a form and ink, can be considered by adding an advertisement like the so-called government postcard with an advertisement. In this case, the advertising provider concerned bears the discount part costs of photograph courtesy rates, and the provision costs of a supply article.

[0046] Especially as an addition format of said advertising information, although not limited, it may print outside the limit of the digital image data which a customer orders in hard copy, or you may output to a form different from the rear face of hard copy, and the hard copy of the digital image data which a customer orders separately.

[0047] In addition, you may make it send whether a customer wishes to add at the time of order reception, or it does not carry out as advertising additional information about whether this advertising information is added.

[0048] In this invention, "ordering information" is things, such as identification information of demand whether a customer wants what kind of hard copy to obtain from the above-mentioned radical data, directions, and a customer, and is parts other than the above-mentioned digital image data among the information which a customer sends to a service provider.

[0049] If ordering information is accessed at the homepage which the server by the side of a service provider indicates using the personal computer with which the customer installed the WWW browser, an order format will be displayed on the display screen of said personal computer as a dialog, and a customer will be transmitted to a service provider using a keyboard or a mouse according to it, when it inputs or the server of a service provider reads the domestic LAN environment automatically.

[0050] Specifically, they are a customer's ID information (the address, a name, the telephone number, e-mail address password, etc.), the size information on hard copy (postcard size, service size, L size, A5 size, etc.), the number-of-sheets information on hard copy, the model information on a customer's image output unit, the approaches (credit card number etc.) of paying, said customer's taste information, the decision information on whether said advertising information is added, the time amount assignment information outputted from an image output unit.

[0051] It is only a mere example that was mentioned here that this ordering information should just define a format suitably by service to offer.

[0052] The "image output unit" which a customer owns in this invention is equipment which connects with said network, receives the digital image data [finishing / an image processing] (processed data) transmitted from the service provider, and carries out output possible [of the hard copy]. Although there is especially no limit, it is represented by facsimile with a printer and they are the digital printer which uses silver salt photosensitive material as a form, an ink jet printer, a idye sublimation printer, a hot printing mold printer, a laser beam printer, etc. as a printer. Especially the ink jet printer with which full color quality image quality is acquired is a desirable mode.

[0053]

[Embodiment of the Invention] Although the gestalt of operation of this invention is explained hereafter, referring to a drawing, this invention is not limited to this.

[0054] Drawing 1 is a conceptual diagram of a computer system which performs the network photograph service provision approach of this invention.

[0055] Network photograph service equipment (server) for a service provider to provide a customer with photograph service of an image processing, as for domestic [which N of a reference mark connects with 120 among drawing, and each 110 / networks, such as the WWW Internet, and / and 130 connect with Network N / of a customer / LAN], and S, and 300 are advertising offer equipment which offers the advertising information in the case of adding advertising information in the image processing which network photograph service equipment S performs. Drawing 5 explains each 110, 120, and 130 detail domestic [LAN], and the terminal 111 of a personal computer for a customer to transmit digital image data etc. and the facsimile 112 as an image output unit are connected at least.

[0056] First, a customer accesses Server S through Network N from a terminal 111. That is, the homepage (URL) of the service provider concerned on the WWW Internet is perused.

[0057] Server S displays the dialog which urges a transfer of digital image data, and the input of ordering information to a terminal 111 as an order reception step. A customer inputs ordering information with input means, such as a keyboard of a terminal 111, and a mouse, and transmits digital image data to Server S together with this ordering information. Digital image data may be the image photoed with the digital camera, the image read into the terminal 111 from the scanner, or the image downloaded from the homepage of the WWW Internet. A part of ordering information does not demand an input from a customer, but you may make it Server S acquire domestic [LAN / 110] environmental-information -, for example, model information - of facsimile, automatically at this time (**).

[0058] Next, as an image-processing step, Server S performs an image processing based on ordering information, and uses as processed data the digital image data (radical data) transmitted by the customer.

[0059] And Server S transmits the processed data by which transform processing was carried out so that it might be suitable for an image output to a customer's facsimile 112 through Network N as a transfer step again (**). The transmitted processed data are outputted as hard copy from facsimile 112. At this time, you may make it store the radical data concerned, order data, and processed data in the storage sections, such as HDD domestic [LAN], and the re-transfer by a re-order, failure in a transfer, etc. is equipped with them, and they may be made to carry out fixed period storage at Server S.

[0060] Moreover, in the above-mentioned order reception step, when a customer adds advertising information and discount hope, such as discount of photograph courtesy rates or free provision of a supply article, is inputted as ordering information, in an image-processing step, the image processing which adds the advertising information memorized by Server S to digital image data is performed. What was transmitted to Server S through Network N from advertising offer equipment 300 is used for this advertising information (**). In addition, without Network N, ** is also the format of storages, such as DVD and CD-ROM, and a service provider may be provided with advertising information from an advertising provider.

[0061] Drawing 2 is the block diagram showing the configuration of network photograph service equipment (server S). In addition, although the gestalt of this operation showed network photograph service equipment as one server, it is very good in the format distributed, of course.

[0062] Among drawing, 11 of a reference mark is a control means which consists of CPUs etc., and performs control of each part, a data transfer and reception and various operations, processing, temporary storing of data, etc. This control means 11 serves both as the order reception means in this invention, an image-processing means, and a transfer means.

[0063] A sign 13 is an interface (I/F) which connects a network and Server S, and controls I/O of data. In this invention, the digital image data transmitted by the customer, ordering information, and the advertising information transmitted by the advertising provider are received, and control which transmits the digital image data which performed the image processing to a customer is performed.

[0064] Each of 12, 14, 15, and 16 of a reference mark is the storage sections, such as HDD, and each file

is memorized.

[0065] A program 12 makes a control means 11, as for this network photograph service program, perform an order reception procedure, an image-processing procedure, a transfer procedure, etc. including the network photograph service program of this invention.

[0066] When the advertising information file 14 has memorized the advertising information offered by the advertising provider and a customer wishes addition of advertising information, proper advertising information will be read from this advertising information file 14, and image processings with digital image data, such as outside the limit composition (template composition), will be performed.

[0067] The image processing LUT 16 will have memorized the translation table for changing into processed data from radical data which gave [above-mentioned] explanation, a suitable translation table will be chosen according to a customer's ordering information, and an image processing will be performed.

[0068] A data file 15 can use flexibly carrying out fixed period storage of the data (radical data and ordering information) transmitted by the customer or the data after an image processing (processed data) etc. After performing compression processing, you may make it store, when data volume is large.

[0069] Drawing 3 is an example of ordering information. They are information for the information for which an order receipt number is used for the management by the side of a service provider, and an image data number to identify each data, when there is two or more digital image data to receive photograph service, and the advertising additional information of whether the model information on a customer's image output unit and 2-1 to 2-4 add a customer's taste information, and, as for 1-1, 3-1 adds advertising information among drawing. The approach of paying chooses sending to the customer of the payment form currently used widely at the masking market on the WWW Internet, and a credit card transaction. Moreover, when there are no form and ink for outputting to a customer's image output unit, time-of-delivery assignment information is used in order to postpone service provision time amount and to prevent transfer failure until it supplies.

[0070] Drawing 4 is an example of the flow chart of the image processing of the digital image data about the image-processing information in the ordering information of drawing 3 .

[0071] First, digital image data (radical data) and ordering information are transmitted to network photograph service equipment from a customer's terminal, and it receives (S1).

[0072] The image-processing information in this ordering information is divided into the advertising additional information of whether to perform the printer kind information, a customer's taste information, and advertising addition which are a customer's image output unit further.

[0073] In performing an image processing to radical data, the image processing LUT corresponding to the printer kind information received at step S1 is searched (S2). The image processing according to printer kind information is performed using searched LUT (S3).

[0074] Next, the image processing LUT corresponding to the taste information of the customer who received at step S1 is searched (S4). The image processing according to a customer's taste information is performed using searched LUT (S5). In drawing 3 , although these processing actuation will be performed 4 times since there was four kinds of taste information to 2-1 to 2-4, it omitted here.

[0075] Furthermore, the advertising additional information received at step S1 is recognized, and it judges whether advertising addition expects whether the customer wishes the discount of the network photograph courtesy rates by advertising addition (S6). When you do not wish, the image processing according to (NO) and image-processing information is ended now. When addition of advertising information is wished, advertising information is suitably chosen from (YES) and an advertising information file (S7), the image processing to add is performed (S8), and the image processing according to image-processing information is ended.

[0076] And in addition to the image processing according to image-processing information, based on the size information and number-of-sheets information on hard copy, an image processing is performed further, and it is stored in a data file as final processed data, and is transmitted towards a customer.

[0077]

[Effect of the Invention] The customer has provided the house with the network photograph service

provision approach, the network photograph service equipment, and the network photograph service program of a photograph store EQC which enabled it to obtain a high definition image output without moving from his seat.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the network photograph service provision approach, the network photograph service equipment, and the network photograph service program which were made to carry out the direct output of the digital image data which offered image-processing service of the digital image data as photograph service, and performed said image processing as hard copy from image output units, such as a customer's facsimile, through networks, such as the Internet.

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PRIOR ART

[Description of the Prior Art] In recent years, devices treating digital data, such as a digital camera, a scanner, and a personal computer, have spread quickly as home use. Moreover, digital image output units, such as facsimile which outputs those digital data as hard copy, an ink jet printer, and a laser beam printer, have spread similarly, and have become the quality thing which also has image quality equivalent to photograph image quality.

[0003] In domestic, when a user is going to get digital image data from an independent printer as hard copy uniquely, various trouble occurs.

[0004] First, digital image data is read into a personal computer. A printer is connected to this personal computer and the printer driver for controlling this printer is installed in it as application software.

[0005] And about each read image data, color tone modification, brightness modification, trimming, etc. must be processed, number-of-sheets assignment must be carried out, and it must output (print-out).

However, for a certain reason, in the usual printer drivers, such as color matching, amendment of gradation, noise rejection, etc. between the display screen of a personal computer, and the output of a printer, an impossible image processing is also less than the image quality of a photoprint which is received in a photograph store in many cases.

[0006] Moreover, even if there is application software in which such an image processing is possible, remarkable mastery is required in order to master it.

[0007] Moreover, considering an effort and time amount, in the case of the digital image data by which digital image data to output is the snapshot of a travel etc., and amounts to dozens of sheets photoed with the digital camera, it is very difficult [it] to acquire the image quality of a photoprint which is received in a photograph store about the all.

[0008] On the other hand, for the latest DPE (photograph store), an image is read in a conventional color film [finishing / development] with a scanner, after digitizing, it is made a print or service which carries out immediate printing from the digital image data memorized by the memory of a digital camera is offered. Although there are few problems about a guarantee of the above-mentioned image quality in the image-processing capacity of a photograph store, a customer has to go to DPE specially, and these photograph services must deposit digital image data, must go a print taking over after that, and lack convenience.

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EFFECT OF THE INVENTION

[Effect of the Invention] The customer has provided the house with the network photograph service provision approach, the network photograph service equipment, and the network photograph service program of a photograph store EQC which enabled it to obtain a high definition image output without moving from his seat.

[Translation done.]

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the way, as for said domestic digital instrument, the environment in which the data exchange with the exterior is possible is ready through networks, such as the Internet, in recent years. Broadband-ization is going to the network using fiber-optic cables, such as FTTH, increasingly from the network using metallic cables, such as current ISDN, an IP connection, and ADSL, and even if it is mass digital image data, a communication link is becoming possible for a short time. Furthermore, wireless networks, such as health Internet service and IMT-2000 (third generation migration communication system by specification, such as W-CDMA), are also being improved, and the spread of mobile equipment is also prosperous.

[0010] Moreover, the technique which connects each domestic digital instruments by network in domestic by not only cables, such as Ethernet, IEEE1394, and USB, but the electric wave (PHS and Bluetooth) or light (infrared radiation, optical wireless, etc.) is also proposed (domestic [LAN]).

[0011] According to the "investigation investigation report about the fusion of a domestic device which viewed the 21st century, and development promotion of a network technique" of the Japan Key Technology Center issue of issue, networks, such as the external WWW Internet, and domestic [LAN] will be linked in March, Heisei 12, and the system which can enjoy various services easily by domestic is proposed. An example of such a system is shown in drawing 5 .

[0012] Drawing 5 indicates signs that it has connected domestic [of each home / LAN] by the home server to be the network which consists of wire nets, such as satellite communication networks, such as BS and CS, CATV and ISDN, and FTTH, etc. The home server has the tuner as an interface with a network, a modem, a controller, etc. HDD as the storage section, DVD, etc. Domestic [LAN] has connected a personal computer (personal computer), a color printer, a telephone, FAX (facsimile), a refrigerator, an air-conditioner, lighting, etc. by specification, such as IEEE1394, and USB, Bluetooth. A cellular phone, PHS, etc. as migration means of communications join this a network or domestic [LAN].

[0013] The customer who owns such domestic [LAN], migration means of communications, etc. can receive various services now from a service provider through a network.

[0014] The purpose of this invention is for a customer to provide a house with the network photograph service provision approach, the network photograph service equipment, and the network photograph service program of a photograph store EQC which enabled it to obtain a high definition image output without moving from his seat in view of the above-mentioned technical problem and maintenance of a network environment.

[0015]

[Translation done.]

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MEANS

[Means for Solving the Problem] The above-mentioned purpose of this invention was attained by the following configurations.

[0016] 1. In the network photograph service provision approach of offering photograph service according to the computer system linked to a network The order reception step urged to transmit digital image data to a customer, The image-processing step which performs an image processing to said digital image data transmitted by said customer, The network photograph service provision approach characterized by having the transfer step which transmits it in order to make the digital image data which performed said image processing output from said customer's image output unit.

[0017] 2. Network photograph service provision approach given in the above 1 which urges said customer to input said customer's taste information as ordering information in said order reception step, and is characterized by said image processing being image processing according to said taste information.

[0018] 3. Network photograph service provision approach given in the above 1 or 2 which acquires model information on said image output unit, and is characterized by said image processing being image processing according to said model information in said order reception step.

[0019] 4. It is the network photograph service provision approach given in any 1 term of the above 1-3 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and is characterized by said image processing being an image processing according to said additional information.

[0020] 5. Network photograph service provision approach given in any 1 term of the above 1-4 to which said image processing is characterized by being addition of advertising information.

[0021] 6. The network photograph service equipment characterized by to have the order reception means which urges to transmit digital image data to a customer in the network photograph service equipment which provides a customer with photograph service through a network, an image-processing means perform an image processing to said digital image data transmitted by said customer, and a transfer means transmit in order to make the digital image data which performed said image processing output from said customer's image output unit.

[0022] 7. Network photograph service equipment given in the above 6 said whose image-processing means he is urged for said order reception means to input said customer's taste information as ordering information to said customer, and is characterized by performing image processing according to said taste information.

[0023] 8. Network photograph service equipment given in the above 6 or 7 said whose image-processing means said order reception means acquires model information on said image output unit, and are characterized by performing image processing according to said model information.

[0024] 9. It is network photograph service equipment given in any 1 term of the above 6-8 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and is

characterized by said image processing being an image processing according to said additional information.

[0025] 10. Network photograph service equipment given in any 1 term of the above 6-9 to which said image-processing means is characterized by adding advertising information.

[0026] 11. In the network photograph service program which offers photograph service through a network The order reception procedure urged to transmit digital image data to a customer, The image-processing procedure of performing an image processing to said digital image data transmitted by said customer, The network photograph service program which makes a computer perform the transfer procedure of transmitting it in order to make the digital image data which performed said image processing outputting from said customer's image output unit.

[0027] 12. A network photograph service program given in the above 11 said whose image processing is characterized by being color management processing.

[0028] 13. A network photograph service program given in the above 11 or 12 which urges said customer to input said customer's taste information as ordering information in said order reception procedure, and is characterized by said image processing being an image processing according to said taste information.

[0029] 14. A network photograph service program given in any 1 term of the above 11-13 which acquires the model information on said image output unit, and is characterized by said image processing being an image processing according to said model information in said order reception procedure.

[0030] 15. It is a network photograph service program given in any 1 term of the above 11-14 which the digital image data transmitted by said customer is photography image data, and said digital image data has the photography conditions at the time of photography as additional information, and is characterized by said image processing being an image processing according to said additional information.

[0031] 16. A network photograph service program given in any 1 term of the above 11-15 to which said image processing is characterized by being addition of advertising information.

[0032] Hereafter, this invention is explained to a detail. In this invention, a "network" is the communication network which can deliver and receive digital image data between the service providers which offer photograph service of an image processing with the customer who receives service. That is, the network concerned needs that the server by the side of that the digital image data based on digital camera photography etc. can be transmitted to the server by the side of a service provider (network photograph service equipment) from digital instruments, such as a customer's personal computer, and a service provider can perform an image processing to the digital image data which received from the customer suitably, can transmit to image output units, such as a customer's facsimile, and can make it output from a customer side. It is a communication network centering on the WWW Internet, and is a dedicated line, a CATV network, a dialup connection network, a satellite communication network, etc., and, specifically, all the means of communications that have sufficient transmission speed to perform a transfer of the ordering information in this invention or digital image data are included.

[0033] this invention -- setting -- "a computer system" -- (1) -- transfer equipment for the customer connected to said network to transmit digital image data, and (2) -- the network photograph service equipment which receives said image data transmitted by said customer connected to said network, performs an image processing, and transmits to a customer's image output unit, and (3) -- a customer's image output unit connected to said network is included at least.

[0034] Specifically, client computers, such as a personal computer with which a customer uses the above (1), the server computer by which a service provider uses (2), and (3) are things, such as facsimile with a printer which a customer uses.

[0035] In this invention, the radical data which a customer transmits to a service provider at the time of order reception, and processed data after a service provider performs an image processing are included with "digital image data." As radical data, the photography image which the customer photoed with the digital camera, the image which the customer read and digitized with the scanner from the analog image, the digital image created on the personal computer, the images downloaded from the homepage

currently exhibited on the Internet are all digital data, and can communicate through the above-mentioned network. It is specifically possible to use various data format, such as a bit map, and JPEG, GIF, HTML, and it is possible to acquire compatibility by using a converter in the case of data format which is different with the transfer equipment by the side of a customer, and the network photograph service equipment by the side of a service provider. Moreover, in order to gather transmission speed, a well-known data compression technique can also be used. Moreover, the digital image data of this invention includes not only the image data itself that constitutes an image but additional information, such as photography conditions at the time of photography by the digital camera (extracting shutter speed, a focus, various photography modes, etc.).

[0036] In this invention, the "image processing" as photograph service which a service provider offers is an image processing automatically performed based on the ordering information later mentioned to the digital image data (radical data) transmitted by the customer at the time of order reception, and is data-conversion processing for making hard copy output from a customer's image output unit.

[0037] The digital image data which carried out order reception is RGB data, and when an image output unit receives only YMCK data, based on a chromaticity translation table, it changes into YMCK data or, specifically, let processing as a printer driver which performs conversion about the size and the number of sheets of hard copy be the base.

[0038] Moreover, a customer can be provided with a high definition image like a photoprint received in a photograph store by including A-D as an image processing below in this invention.

A. It is an image processing for recognizing the total image transformation from the digital image data (radical data) transmitted by the image-processing customer according to the model information on a customer's image output unit to the digital image data for hard copy (processed data) outputted from a customer's image output unit, and guaranteeing the repeatability of a better image by engine-performance within the limits of the image output unit concerned. For example, when the chromaticity translation table of RGB->YMCK changes with models of image output unit about color reproduction or gradation, the chromaticity translation table applied to an image processing for every model is changed, and an image processing is performed so that it may become the optimal data for an output for a customer's image output unit. Moreover, when the resolution (dpi: pixel number) of an image output unit is inferior compared with the radical data transmitted by the customer, a data compression is performed according to the resolution of the image output unit concerned, and the processing which makes quick the transfer rate of the digital image data from network photograph service equipment to an image output unit is included in this image processing.

[0039] The production approach of LUT (chromaticity translation table) changed into YMCK data from RGB data can use a well-known approach. For example, a color patch with each BGR value is produced, it outputs to an image output unit, and the chromaticity region of the obtained hard copy is measured using a colorimeter. The parameter of LUT is set up so that the color reproduction region of this RGB space and the color reproduction space produced using the acquired colorimeter chromaticity value may become the optimal relation (for example, gray balance, color reproduction of a pure color, maximization of a color reproduction region). The color reproduction region of hard copy has the large place which the difference of the coloring material by the classes of a customer's image output unit differing especially although it changes greatly with the medium kind outputted [paper] and light source kinds which observe hard copy the spectral extinction wave-like of coloring materials, such as ink of YMCK used for an image output unit or a pigment, and spectral extinction wave-like contributes. In this invention, it is one of the descriptions that the image of the optimal high quality can be obtained, without a customer being conscious of the output unit which a customer owns.

[0040] Furthermore, there is no YMCK at one sort of ink cartridges depending on an output model, respectively, for example, Y can produce LUT which one sort and M seasoned with contribution of all ink cartridges like the above also in this case although two sorts and C consist of two sorts and K may consist of ink cartridges of one sort of a total of six colors. Moreover, it is possible to distinguish the classes (a regular paper, coat paper, a photograph-like paper, OHP sheet, etc.) of output form with which output equipment is equipped, and to also produce the optimal LUT for the form.

[0041] In addition, a customer may input this model information on an order reception screen, and you may make it transmit the information on the domestic LAN environment to a server automatically.

B. It is the thing of the processing processing which the image-processing customer according to a customer's taste wants to perform to the digital image data (radical data) to transmit, for example, they are modification of contrast, modification of a color or gradation, enlarging or contracting of an image, trimming assignment, modification of the aspect ratio of an image, etc.

[0042] Furthermore, ***** of a customer's subjective image taste, high key, a low key, hard -- thin -- come -- soft - with contrast -- the software which is not -- It fades. hardness and a jump -- gradation processing -- going out -- Sharp and sharpness -- blurring and the cold dotage taste -- adjustment of the sharpness of an image, and a flicker -- oh, it can be and conspicuous noise processing, vividness which is beautiful and becomes muddy, gaiety, gloss, astringent taste, depth, abundance, and processing that changes color reproduction about it being dirty can be performed about being a rough deposit and it being dirty.

[0043] It parameterizes this customer's taste information, and is received as ordering information with the network photograph service equipment by the side of a service provider (server), for example, an image processing is performed by technique, such as FITS (Flexible Image Transport System) of LivePicture.

[0044] In addition, a customer sends a customer's taste information to a server as one item of ordering information at the time of order reception. Moreover, the gestalt which can be ordered while checking an image-processing result on a monitor also has a desirable customer.

C. Although the photography conditions at the time of photography by the image-processing digital camera based on additional information, such as photography information on a digital camera, (extracting shutter speed, a focus, various photography modes, etc.) etc. are included in digital image data as additional information, they are an image processing performed according to this additional information.

[0045] Speaking still more concretely, as additional information at the time of photography of a digital camera Auto photography mode, diaphragm priority photography mode, shutter speed priority photography mode, Automatic focus mode, manual focus mode, an exposure type of optical measurement (a full screen average) Mechanical zoom, such as point assignment and a screen separation average, and digital zoom use existence, Blurring prevention mode, bloodshot-eyes mitigation mode, stroboscope luminescence existence, scenery photography mode, Person photography mode, sport photography mode, night view photography mode, close-up photography mode, Monochrome line drawing photography mode, image-processing kinds (sepia processing, monochrome processing, alphabetic character sharp-ized processing, profile emphasis processing, etc.), a photography person, photography time, the number of photography coma, a camera model name, image size, image resolution, the rate of picture compression, a graphics format kind, etc. are mentioned. Sharp-ized processing performs to extent which performs color change processing in_which its attention was paid to the beige part to the image photoed in the person photography mode in_which the image processing which emphasizes the saturation of the green of trees or a marine color to the image photoed for example, in scenery photography mode among these is performed, noise-rejection processing, etc. and to which shutter speed does not spoil a granular feeling to a late image, and it outputs to a customer image output unit. Such additional information may be used combining the image processing indicated to said A and B.

D. The service provider which performs the image-processing image processing which adds advertising information carries out in concert with an advertising provider, a customer receives photograph service, and it is an image processing for making the advertising information which adds to digital image data to output and said advertising provider offers output from a customer's image output unit. The business model which discounts the tariff of the image processing (photograph service) which a service provider collects from a customer, or carries out free provision of the supply articles used for a customer's image output unit, such as a form and ink, can be considered by adding an advertisement like the so-called government postcard with an advertisement. In this case, the advertising provider concerned bears the

discount part costs of photograph courtesy rates, and the provision costs of a supply article.

[0046] Especially as an addition format of said advertising information, although not limited, it may print outside the limit of the digital image data which a customer orders in hard copy, or you may output to a form different from the rear face of hard copy, and the hard copy of the digital image data which a customer orders separately.

[0047] In addition, you may make it send whether a customer wishes to add at the time of order reception, or it does not carry out as advertising additional information about whether this advertising information is added.

[0048] In this invention, "ordering information" is things, such as identification information of demand whether a customer wants what kind of hard copy to obtain from the above-mentioned radical data, directions, and a customer, and is parts other than the above-mentioned digital image data among the information which a customer sends to a service provider.

[0049] If ordering information is accessed at the homepage which the server by the side of a service provider indicates using the personal computer with which the customer installed the WWW browser, an order format will be displayed on the display screen of said personal computer as a dialog, and a customer will be transmitted to a service provider using a keyboard or a mouse according to it, when it inputs or the server of a service provider reads the domestic LAN environment automatically.

[0050] Specifically, they are a customer's ID information (the address, a name, the telephone number, e-mail address password, etc.), the size information on hard copy (postcard size, service size, L size, A5 size, etc.), the number-of-sheets information on hard copy, the model information on a customer's image output unit, the approaches (credit card number etc.) of paying, said customer's taste information, the decision information on whether said advertising information is added, the time amount assignment information outputted from an image output unit.

[0051] It is only a mere example that was mentioned here that this ordering information should just define a format suitably by service to offer.

[0052] The "image output unit" which a customer owns in this invention is equipment which connects with said network, receives the digital image data [finishing / an image processing] (processed data) transmitted from the service provider, and carries out output possible [of the hard copy]. Although there is especially no limit, it is represented by facsimile with a printer and they are the digital printer which uses silver salt photosensitive material as a form, an ink jet printer, a dye sublimation printer, a hot printing mold printer, a laser beam printer, etc. as a printer. Especially the ink jet printer with which full color quality image quality is acquired is a desirable mode.

[0053]

[Embodiment of the Invention] Although the gestalt of operation of this invention is explained hereafter, referring to a drawing, this invention is not limited to this.

[0054] Drawing 1 is a conceptual diagram of a computer system which performs the network photograph service provision approach of this invention.

[0055] Network photograph service equipment (server) for a service provider to provide a customer with photograph service of an image processing, as for domestic [which N of a reference mark connects with 120 among drawing, and each 110 / networks, such as the WWW Internet, and / and 130 connect with Network N / of a customer / LAN], and S, and 300 are advertising offer equipment which offers the advertising information in the case of adding advertising information in the image processing which network photograph service equipment S performs. Drawing 5 explains each 110, 120, and 130 detail domestic [LAN], and the terminal 111 of a personal computer for a customer to transmit digital image data etc. and the facsimile 112 as an image output unit are connected at least.

[0056] First, a customer accesses Server S through Network N from a terminal 111. That is, the homepage (URL) of the service provider concerned on the WWW Internet is perused.

[0057] Server S displays the dialog which urges a transfer of digital image data, and the input of ordering information to a terminal 111 as an order reception step. A customer inputs ordering information with input means, such as a keyboard of a terminal 111, and a mouse, and transmits digital image data to Server S together with this ordering information. Digital image data may be the image

photoed with the digital camera, the image read into the terminal 111 from the scanner, or the image downloaded from the homepage of the WWW Internet. A part of ordering information does not demand an input from a customer, but you may make it Server S acquire domestic [LAN / 110] environmental-information -, for example, model information - of facsimile, automatically at this time (**).

[0058] Next, as an image-processing step, Server S performs an image processing based on ordering information, and uses as processed data the digital image data (radical data) transmitted by the customer.

[0059] And Server S transmits the processed data by which transform processing was carried out so that it might be suitable for an image output to a customer's facsimile 112 through Network N as a transfer step again (**). The transmitted processed data are outputted as hard copy from facsimile 112. At this time, you may make it store the radical data concerned, order data, and processed data in the storage sections, such as HDD domestic [LAN], and the re-transfer by a re-order, failure in a transfer, etc. is equipped with them, and they may be made to carry out fixed period storage at Server S.

[0060] Moreover, in the above-mentioned order reception step, when a customer adds advertising information and discount hope, such as discount of photograph courtesy rates or free provision of a supply article, is inputted as ordering information, in an image-processing step, the image processing which adds the advertising information memorized by Server S to digital image data is performed. What was transmitted to Server S through Network N from advertising offer equipment 300 is used for this advertising information (**). In addition, without Network N, ** is also the format of storages, such as DVD and CD-ROM, and a service provider may be provided with advertising information from an advertising provider.

[0061] Drawing 2 is the block diagram showing the configuration of network photograph service equipment (server S). In addition, although the gestalt of this operation showed network photograph service equipment as one server, it is very good in the format distributed, of course.

[0062] Among drawing, 11 of a reference mark is a control means which consists of CPUs etc., and performs control of each part, a data transfer and reception and various operations, processing, temporary storing of data, etc. This control means 11 serves both as the order reception means in this invention, an image-processing means, and a transfer means.

[0063] A sign 13 is an interface (I/F) which connects a network and Server S, and controls I/O of data. In this invention, the digital image data transmitted by the customer, ordering information, and the advertising information transmitted by the advertising provider are received, and control which transmits the digital image data which performed the image processing to a customer is performed.

[0064] Each of 12, 14, 15, and 16 of a reference mark is the storage sections, such as HDD, and each file is memorized.

[0065] A program 12 makes a control means 11, as for this network photograph service program, perform an order reception procedure, an image-processing procedure, a transfer procedure, etc. including the network photograph service program of this invention.

[0066] When the advertising information file 14 has memorized the advertising information offered by the advertising provider and a customer wishes addition of advertising information, proper advertising information will be read from this advertising information file 14, and image processings with digital image data, such as outside the limit composition (template composition), will be performed.

[0067] The image processing LUT 16 will have memorized the translation table for changing into processed data from radical data which gave [above-mentioned] explanation, a suitable translation table will be chosen according to a customer's ordering information, and an image processing will be performed.

[0068] A data file 15 can use flexibly carrying out fixed period storage of the data (radical data and ordering information) transmitted by the customer or the data after an image processing (processed data) etc. After performing compression processing, you may make it store, when data volume is large.

[0069] Drawing 3 is an example of ordering information. They are information for the information for which an order receipt number is used for the management by the side of a service provider, and an image data number to identify each data, when there is two or more digital image data to receive

photograph service, and the advertising additional information of whether the model information on a customer's image output unit and 2-1 to 2-4 add a customer's taste information, and, as for 1-1, 3-1 adds advertising information among drawing. The approach of paying chooses sending to the customer of the payment form currently used widely at the masking market on the WWW Internet, and a credit card transaction. Moreover, when there are no form and ink for outputting to a customer's image output unit, time-of-delivery assignment information is used in order to postpone service provision time amount and to prevent transfer failure until it supplies.

[0070] Drawing 4 is an example of the flow chart of the image processing of the digital image data about the image-processing information in the ordering information of drawing 3 .

[0071] First, digital image data (radical data) and ordering information are transmitted to network photograph service equipment from a customer's terminal, and it receives (S1).

[0072] The image-processing information in this ordering information is divided into the advertising additional information of whether to perform the printer kind information, a customer's taste information, and advertising addition which are a customer's image output unit further.

[0073] In performing an image processing to radical data, the image processing LUT corresponding to the printer kind information received at step S1 is searched (S2). The image processing according to printer kind information is performed using searched LUT (S3).

[0074] Next, the image processing LUT corresponding to the taste information of the customer who received at step S1 is searched (S4). The image processing according to a customer's taste information is performed using searched LUT (S5). In drawing 3 , although these processing actuation will be performed 4 times since there was four kinds of taste information to 2-1 to 2-4, it omitted here.

[0075] Furthermore, the advertising additional information received at step S1 is recognized, and it judges whether advertising addition expects whether the customer wishes the discount of the network photograph courtesy rates by advertising addition (S6). When you do not wish, the image processing according to (NO) and image-processing information is ended now. When addition of advertising information is wished, advertising information is suitably chosen from (YES) and an advertising information file (S7), the image processing to add is performed (S8), and the image processing according to image-processing information is ended.

[0076] And in addition to the image processing according to image-processing information, based on the size information and number-of-sheets information on hard copy, an image processing is performed further, and it is stored in a data file as final processed data, and is transmitted towards a customer.

[Translation done.]

* NOTICES *

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the conceptual diagram of a computer system which performs the network photograph service provision approach.

[Drawing 2] It is the block diagram showing the configuration of network photograph service equipment (server S).

[Drawing 3] It is an example of ordering information.

[Drawing 4] It is an example of the flow chart of the image processing of the digital image data about the image-processing information in the ordering information of drawing 3 .

[Drawing 5] It is drawing showing an example domestic [LAN] which carried out the network link.

[Description of Notations]

11 Control Means

12 Program

13 Interface

14 Advertising Information File

15 Data File

16 Image Processing LUT

110, 120, 130 Domestic [LAN]

111 Terminal

112 Facsimile

300 Advertising Offer Equipment

S Network photograph service equipment (server)

N Network

[Translation done.]

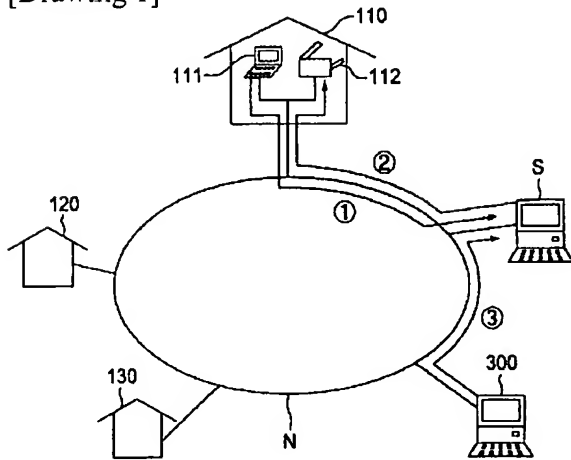
* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

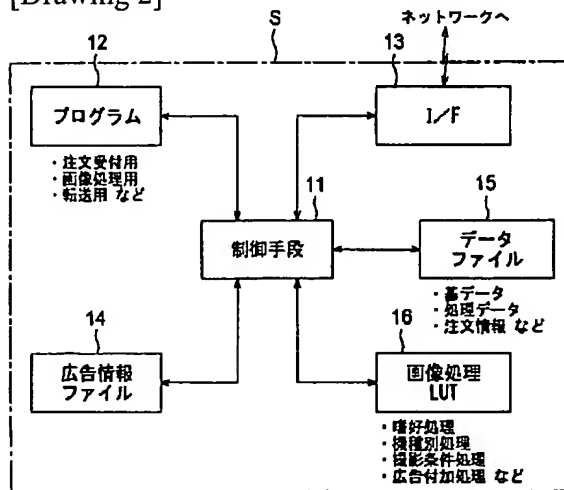
- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 1]



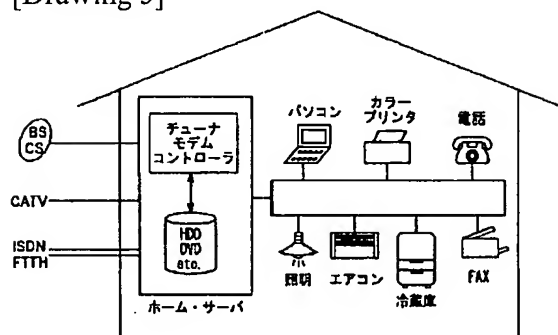
[Drawing 2]



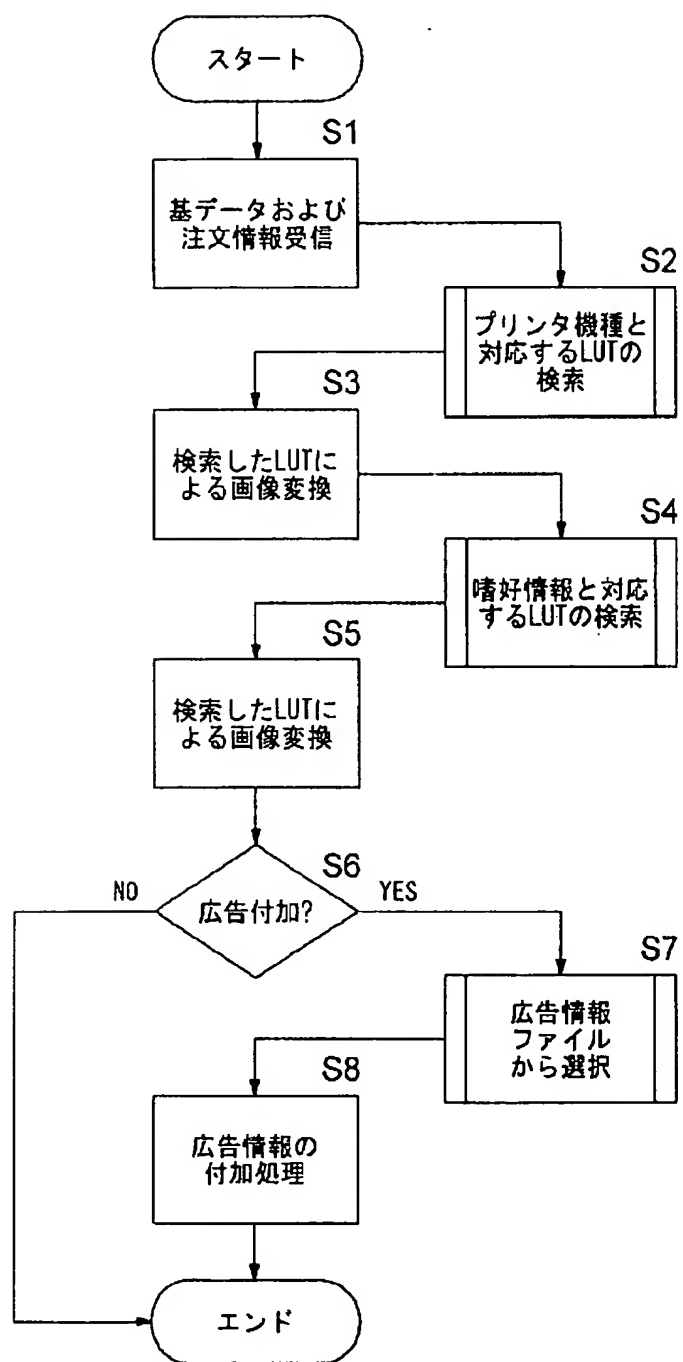
[Drawing 3]

注文受付番号	
画像データ番号	
画像処理情報	1-1 プリンタ機種情報
	2-1 明るさ変更情報
	2-2 色調変更情報
	2-3 拡大/縮小情報
	2-4 トリミング情報
	3-1 広告付加情報
サイズorレイアウト	
枚数	
支払方法	
顧客ID	氏名
	住所
	電話番号
	クレジットカード番号
受領時間指定情報	

[Drawing 5]



[Drawing 4]



[Translation done.]